

✓ 54/7413 011665

✓ 54LS/74LS13 011666

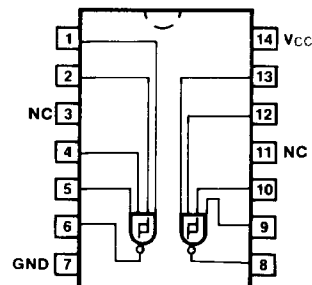
DUAL 4-INPUT SCHMITT TRIGGER

ORDERING CODE: See Section 9

PKGS	PIN OUT	COMMERCIAL GRADE	MILITARY GRADE	PKG TYPE
		$V_{CC} = +5.0 \text{ V} \pm 5\%$, $T_A = 0^\circ \text{C to } +70^\circ \text{C}$	$V_{CC} = +5.0 \text{ V} \pm 10\%$, $T_A = -55^\circ \text{C to } +125^\circ \text{C}$	
Plastic DIP (P)	A	7413PC, 74LS13PC		9A
Ceramic DIP (D)	A	7413DC, 74LS13DC	5413DM, 54LS13DM	6A
Flatpak (F)	A	7413FC, 74LS13FC	5413FM, 54LS13FM	3I

INPUT LOADING/FAN-OUT: See Section 3 for U.L. definitions

PINS	54/74 (U.L.) HIGH/LOW	54/74LS (U.L.) HIGH/LOW
Inputs	1.0/1.0	0.5/0.25
Outputs	20/10	10/5.0 (2.5)

CONNECTION DIAGRAM
PINOUT A

DC AND AC CHARACTERISTICS: See Section 3*

SYMBOL	PARAMETER	54/74		54/74LS		UNITS	CONDITIONS	
		Min	Max	Min	Max			
V _{T+}	Positive-going Threshold Voltage	1.5	2.0	1.5	2.0	V	V _{CC} = +5.0 V	
V _{T-}	Negative-going Threshold Voltage	0.6	1.1	0.6	1.1	V	V _{CC} = +5.0 V	
V _{T+} —V _{T-}	Hysteresis Voltage	0.4		0.4		V	V _{CC} = +5.0 V	
I _{T+}	Input Current at Positive-going Threshold	-0.65	**	-0.14	**	mA	V _{CC} = +5.0 V, V _{IN} = V _{T+}	
I _{T-}	Input Current at Negative-going Threshold	-0.85	**	-0.18	**	mA	V _{CC} = +5.0 V, V _{IN} = V _{T-}	
I _{OS}	Output Short Circuit Current	-18	-55	-20	-100	mA	V _{CC} = Max	
I _{CCH}	Power Supply Current	23		6.0		mA	V _{IN} = Gnd	V _{CC} = Max
I _{CCL}		32		7.0			V _{IN} = Open	
t _{PLH} t _{PHL}	Propagation Delay	27		22		ns	Fig. 3-1, 3-15	

*DC limits apply over operating temperature range; AC limits apply at $T_A = +25^\circ \text{C}$ and $V_{CC} = +5.0 \text{ V}$. **Typical Value